WHAT IS CLAIMED IS:

1. A resources-reserving method comprising:

defining a communication path as a link assembly for interconnecting interfaces; and

reserving resources on the communication path in accordance with the content of requested reservation when all links that form the communication path can be connected together in accordance with the content of the requested reservation.

2. A resources-reserving method comprising;

reserving communication resources in a gang of apparatus that include a transmitter operable to transmit packets, a relay operable to relay the packets, and a receiver operable to receive the packets;

defining a link for interconnecting respective interfaces of two apparatus selected from the gang of apparatus;

defining a path between said transmitter and said receiver as an assembly of the links;

checking all of the links that form the path to examine how the links are connected together; and

reserving the communication resources in accordance with content of requested reservation when all of the links that form the path are found to be connected together in accordance with the content of the requested reservation.

3. A resources-reserving method as defined in claim 2, further comprising;

refusing to reserve the resources when at lease one of the links that form the path fails to meet the content of the requested reservation.

4. A resources-reserving method as defined in claim 2, wherein a reservation controller different from said relay practices batch processing of handling the links, checking the links to examine how the links can be connected together, and reserving the resources.

5. A resources-reserving method as defined in claim 2, wherein the content of

23

the requested reservation includes one of a band and priority, or both of them.

6. A resources-reserving method as defined in claim 2, wherein the links that form the path include real and virtual links in which the real link forms a path dependant upon respective positions of said transmitter and/or said receiver during reservation, while the virtual link forms a path dependant upon respective moved positions of said transmitter and/or said receiver.

7. A resources-reserving method as defined in claim 6, wherein when the same link weaves the path dependant upon respective positions of said transmitter and/or said receiver during reservation with the path dependant upon respective moved positions of said transmitter and/or said receiver, then it is assumed that only a single path is present in the same link.

8. A packet communication system comprising;
a gang of apparatus including a transmitter operable to transmit packets, a relay operable to relay the packets, and a receiver operable to receive the packets;

a reservation controller operable to define a link for interconnecting respective interfaces of two apparatus selected from the gang of apparatus, and to practice batch processing of checking a connected state of each of the links, and of reserving resources;

the reservation controller operable to define a path between said transmitter and said receiver as an assembly of the links;

the reservation controller operable to check all of the links that form the path to examine how the links are connected together; and

the reservation controller operable to reserve the resources in accordance with content of requested reservation when all of the links that form the path are found to be connected together in accordance with the content of the requested reservation.

9. A resources-reserving method as defined in claim 8, wherein said reservation controller refuses to reserve the resources when at lease one of the links that form the

path fails to meet the content of the requested reservation.

10. A packet communication system as defined in claim 8, wherein the content of the requested reservation includes one of a band and priority, or both of them.

11. A packet communication system as defined in claim 8, wherein the links that form the path include real and virtual links in which the real link forms a path dependant upon respective positions of said transmitter and/or said receiver during reservation, while the virtual link forms a path dependant upon respective moved positions of said transmitter and/or said receiver.

12. A packet communication system as defined in claim 11, wherein when the same link weaves the path dependant upon respective positions of said transmitter and/or said receiver during reservation with the path dependant upon respective moved positions of said transmitter and/or said receiver, then said reservation controller assumes that only a single path is present in the same link.

13. A packet communication system as defined in claim 8, wherein said reservation controller comprises:

a reservation-receiving unit operable to receive a reservation of the resources;

a connection information control unit operable to govern a connected state of each of the links;

a connection information-searching unit operable to search said connection information control unit for a connected state of a specified one of the links; and

a reservation-determining unit operable to compare a connected state of the link between said transmitter and said receiver with content of requested reservation received by said reservation-receiving unit, thereby determining whether all of the links that form the path are found to be connected together in accordance with the content of the requested reservation.

14. A packet communication system as defined in claim 13, wherein said reservation controller comprises:

25

a virtual link information control unit operable to govern a connected state of each virtual link; and

a virtual link information-searching unit operable to search said virtual link information control unit for a connected state of a specified one of the virtual links.

15. A packet communication system as defined in claim 14, wherein said transmitter and/or said receiver includes a virtual link information-registering unit operable to register information on virtual links that form a path dependent upon respective moved positions of said transmitter and/or said receiver.